

CLAIMS

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1. A magnetic/metallic security device for use with an
item to provide multiple security features, said
magnetic/metallic security device comprising:
a carrier substrate;
a metallic layer disposed on at least a portion of said
carrier substrate, for providing metallic security features; and
a magnetic layer disposed on and in substantially identical
registration with said metallic layer, for providing magnetic
security features, wherein said metallic layer and said magnetic
layer together form visually identifiable graphic indicia on said
at least a portion of said carrier substrate.

2. The magnetic/metallic security device of claim 1,
wherein said magnetic layer includes a chemical resist.

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3. The magnetic/metallic security device of claim 1,
wherein said visually identifiable graphic indicia is formed as
magnetic characters readable by MICR detectors..

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4. The magnetic/metallic security device of claim 1,
wherein said magnetic layer includes a hard magnetic substance
capable of being magnetized for recording data on said magnetic
layer.

1 ~~8~~. The magnetic/metallic security device of claim 1,
2 wherein said magnetic layer includes at least one type of
3 magnetic substance having at least one predetermined magnetic
4 characteristic, and wherein said at least one predetermined
5 magnetic characteristic is detectable, for authenticating an item
6 having said security device.

1 ~~6~~. The magnetic/metallic security device of claim ~~5~~,
2 wherein said at least one type of magnetic substance is a soft
3 magnetic pigment capable of holding a level of magnetism for a
4 limited period of time, and wherein said at least one
5 predetermined magnetic characteristic includes said level of
6 magnetism capable of being held by said soft magnetic pigment and
7 a rate of decay of said level of magnetism over said limited
8 period of time.

1 8. The magnetic/metallic security device of claim 1,
2 wherein said magnetic layer includes at least first and second
3 types of magnetic substances having at least first and second
4 predetermined magnetic characteristics respectively, and wherein
5 said first and second types of magnetic substances are arranged
6 in said magnetic layer in a predetermined pattern representing
7 data encoded with said magnetic layer such that said first and
8 second predetermined characteristics are detectable to read said
9 predetermined pattern and decode said data.

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3 substrate, wherein said conductive regions are separated by non-
4 conductive regions and have at least two different predetermined
5 lengths forming a predetermined pattern for representing encoded
6 data, and wherein said predetermined lengths of said conductive
7 regions are detectable to read said predetermined pattern and
8 decode said data.

1 ¹²
13. The magnetic/metallic security device of claim ¹¹~~12~~,
2 wherein said conductive regions include first and second
3 predetermined lengths representing binary integers, and wherein
4 said predetermined pattern of said first and second lengths of
5 said conductive regions encodes said data in a binary coded
6 format.

1 ¹³
14. The magnetic/metallic security device of claim ¹¹~~12~~,
2 wherein said data encoded by said predetermined pattern of said
3 conductive regions is a verification code.

1 ¹⁴
15. The magnetic/metallic security device of claim 1,
2 wherein said visually identifiable graphic indicia is formed
3 positively on said carrier substrate by said magnetic layer and
4 said metallic layer underlying said magnetic layer.

1 ⁵
16. The magnetic/metallic security device of claim 1,
2 wherein said visually identifiable indicia is formed negatively
3 on said carrier substrate by said magnetic layer and said

4 metallic layer underlying said magnetic layer.

1 ¹⁶
~~17~~. The magnetic/metallic security device of claim 1,
2 further including a coating layer disposed over said visually
3 identifiable indicia formed by said metallic layer and said
4 magnetic layer.

1 ¹⁷
~~18~~. The magnetic/metallic security device of claim ¹⁶
~~17~~,
2 wherein said visually identifiable indicia is hidden when viewed
3 by reflected light and is observable when viewed by transmitted
4 light.

1 ¹⁸
~~19~~. The magnetic/metallic security device of claim 1,
2 further including at least one magnetic track disposed along at
3 least a portion of said substrate, for recording data.

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1 ²³
25. A metallic security device for use with an item, said
2 metallic security device comprising:
3 a carrier substrate; and
4 a plurality of conductive regions disposed on said carrier
5 substrate, wherein said conductive regions are separated by non-
6 conductive regions and have at least two different predetermined
7 lengths forming a predetermined pattern for representing encoded
8 data, and wherein said predetermined lengths of said conductive
9 regions are detectable to read said predetermined pattern and
10 decode said data.

1 ²⁴
26. The metallic security device of claim ²³25, wherein said
2 conductive regions include first and second predetermined lengths
3 representing binary integers, and wherein said predetermined
4 pattern of said first and second lengths of said conductive
5 regions encodes said data in a binary coded format.

1 27. The metallic security device of claim 25, wherein said
2 conductive regions are formed as graphic indicia and said non-
3 conductive regions are formed as breaks between said graphic
4 indicia.

1 ²⁵
28. The metallic security device of claim ²³25, wherein said
2 non-conductive regions are formed as graphic indicia and said
3 conductive regions are formed around said graphic indicia.

1 ³⁴
38. The method of claim ³²36, wherein said/magnetic pigments
2 include soft magnetic pigments having at least one predetermined
3 magnetic characteristic.

1 ³⁵
39. The method of claim ³¹35 wherein the step of applying
2 said magnetic chemical resist includes printing said ~~graphic~~ ^{Pattern}
3 ~~indicia~~ using said magnetic chemical resist. ¹

1 ³⁶
40. The method of claim ³¹35 further including:
2 applying an additional layer over said ~~graphical~~ ^{Pattern} ~~indicia~~
3 formed by said magnetic chemical resist and said portion of said
4 metallic layer underlying said magnetic chemical resist. ¹

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1 41. A method of authenticating a magnetic/metallic security
2 device comprising the steps of:
3 writing data to a magnetic layer disposed on at least a
4 portion of a carrier substrate;
5 reading magnetic data from said magnetic layer; and
6 comparing said read magnetic data with expected magnetic
7 data.

1 42. The method of claim 41 wherein said expected magnetic
2 data includes predetermined magnetic data.

1 43. The method of claim 42 wherein said predetermined
2 magnetic data includes analog data.

1 44. The method of claim 42 wherein said predetermined
2 magnetic data includes digital data.

1 45. The method of claim 41 wherein said magnetic data
2 includes a magnetic level.

1 39 46. The method of claim 38 wherein said magnetic level is
2 selected from the group consisting of a high magnetic level, a
3 low magnetic level and a medium magnetic level.

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23. The magnetic security device of claim 20, wherein said magnetic regions having said different predetermined magnetic characteristics include at least first and second types of soft magnetic pigments capable of holding first and second predetermined levels of magnetism.

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24. The magnetic security device of claim 20, wherein said magnetic regions are formed as graphic indicia on said carrier substrate.

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1 20. A magnetic security device for use with an item, said

2 magnetic security device comprising:

3 a carrier substrate; and

4 a plurality of magnetic regions disposed on said carrier
5 substrate, wherein said plurality of magnetic regions have
6 different predetermined magnetic characteristics, wherein said
7 plurality of magnetic regions having different predetermined
8 magnetic characteristics are arranged in a predetermined pattern
9 representing data encoded by said magnetic regions such that said
10 first and second predetermined characteristics are detectable to
11 read said predetermined pattern and decode said data.

1 21. The magnetic security device of claim 20, wherein said
2 different predetermined characteristics include at least first
3 and second predetermined magnetic characteristics representing
4 binary integers, and wherein said predetermined pattern of said
5 magnetic regions having said first and second predetermined
6 magnetic characteristics represents data in a binary coded
7 format.

1 22. The magnetic security device of claim 20, wherein said
2 magnetic regions having said different predetermined magnetic
3 characteristics include at least first and second types of soft
4 magnetic pigments having first and second predetermined magnetic
5 decay rates.

